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Forest Service

**Northeastern Area
State and Private
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Urban Forest Health Needs Assessment Survey:
Results and Recommendations

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Executive Summary

The Urban Forest Health Needs Assessment Survey was designed to query urban forestry professionals and learn about their attitudes toward the general issue of urban forest health, identify specific training and information needs in the areas of urban tree health management, and discover preferences in educational outreach methods. The survey was distributed to urban forestry professionals throughout the 20 northeast and Midwest States and the District of Columbia, which are served by the Northeastern Area State and Private Forestry, a unit of the USDA Forest Service.

Urban Forest Health

- Less than 25% of urban forestry professionals ranked the general health of the urban forests in their State or city as being good to excellent.
- 99% strongly agreed or agreed that preserving the health of urban forests should be an integral component of Urban and Community Forestry programs.
- Less than half felt preserving the health of urban forests was an integral component of the existing Urban and Community Forestry programs in their city or State.
- More than 95% identified long-term tree care and maintenance strategies as being critical to preserving the health and sustainability of urban forests in the Northeast, Midwest, and District of Columbia:

Top Five Long-Term Tree Care Management Strategies	Strongly Agree/Agree
Proper Tree Pruning Techniques	99%
Proper Site/Species Selection	98%
Minimizing Construction Damage	98%
Insect Management	96%
Tree Health Monitoring	96%

Training and Information Needs

Respondents selected long-term care and maintenance subjects in which they need training:

Top Five Training Needs	% of Total
Hazard Tree Evaluation and Management	37%
Disease Management	33%
Tree Health Monitoring	32%
Natural Disaster Planning and Mitigation	30%
Insect Management	28%

Respondents selected long-term care and maintenance subjects in which they need printed information:

Top Five Printed Information Needs	% of Total
Insect Management	73%
Tree Health Monitoring	73%
Minimizing Construction Damage	72%
Disease Management	70%
Fertilization and Watering	68%

Preferred Educational Outreach Methods

Respondents identified preferred educational outreach methods:

Top Five Educational Outreach Methods	% of Total
Fact Sheets	95%
"How To" Informational Brochures	93%
Workshops	92%
Pest Alerts	89%
Reference Books	88%

Over 85% of the respondents felt it is more effective to produce two versions of informational pieces: one tailored for homeowners and another more technically oriented for professionals.

Recommendations

With 69 million acres of urban forests across the country, what better way of "caring for the land and serving people" than for the Forest Service to embrace an Urban and Community Forestry program that provides a comprehensive and targeted approach to urban forest health management? This survey provides valuable needs assessment information that can be used to develop programs that are specifically tailored to meet the identified needs of urban forestry professionals and their constituents in the Northeast, Midwest, and District of Columbia. The programs would respond to the need to improve the health of urban forests, address key urban tree health issues, implement critical urban tree health management practices and strategies, and deliver educational outreach programs using preferred technology transfer methods.

The following recommendations would enhance the implementation of a comprehensive and targeted approach to urban forest health management and should be considered for adoption into the Northeastern Area's Urban Forestry Five-Year Plan, the National Urban and Community Forestry Plan, and the National Urban and Community Forestry Program Standards.

- Develop comprehensive Urban and Community Forestry programs that address issues critical to preserving the health and sustainability of urban trees and forests in the Northeast,

Midwest, and District of Columbia, and implement long-term plant health care practices and strategies.

- Encourage States to include an urban forest health management component in their Five-Year Urban and Community Forestry Strategic Plans.
- Encourage States to implement program priorities outlined in the National Urban and Community Forestry Program Standards when making decisions to allocate Federally and State funded tree planting grants:

  All tree planting projects must include a 3-year maintenance plan (plans require the approval of the State Forester or a designee) that documents how the trees will be planted and maintained.

  Projects involving tree protection and maintenance must meet American National Standards Institute (ANSI) standards. (State standards may be substituted with USDA Forest Service concurrence.)

  Trees planted must, as a minimum, meet the American Standards for Nursery Stock. (State standards may be substituted with USDA Forest Service concurrence.)

- Develop and implement educational outreach programs in urban forest health management tailored to identified training and printed information needs, and preferred educational outreach methods.

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Introduction

The Urban Forest Health Needs Assessment Survey was completed in compliance with objectives identified in the Northeastern Area's Urban Forestry Five-Year Plan: 1995-1999. These objectives state that urban forest health concepts and strategies should be incorporated as integral components of urban and community forestry programs. The following actions were identified in the plan:

- Assemble a Federal and State team to develop, conduct, and evaluate a survey to assess cooperators' needs for training and education materials related to plant health.
- Develop and implement technology transfer programs in urban forest health that are tailored to cooperators' needs.
- Through the popular press, apprise the public of serious tree health problems and successful management efforts.

The survey was designed to query urban forestry professionals in the 20 northeastern and Midwest States and the District of Columbia, which are served by the Northeastern Area, to learn about their attitudes toward the general issue of urban forest health, identify specific training and information needs in the area of urban tree health management, and discover preferences in educational outreach methods. The survey topics selected are those for which the Forest Service hoped to gain input and guidance. Most are broad topics that form a context for a comprehensive and targeted approach to urban forest health management. Topics included urban forestry professionals' perceptions of the following:

- The general health and current condition of urban forests within their State or city. Specific problems or issues that are adversely impacting the health of urban forests. Interest or perceived need to preserve the health and sustainability of urban forests.
- Whether preserving the health and sustainability of urban forests is currently an integral component of Urban and Community Forestry programs within their city or State.
- Long-term tree care and maintenance strategies critical to the preservation of urban forest health.
- Training and information needs in the subject areas of long-term tree care and maintenance.
- Preferences in educational outreach methods.

This report summarizes survey findings and provides valuable needs assessment information to assist in the continuing development of comprehensive Federal and State Urban and Community Forestry programs. Survey results indicate a need for Urban and Community Forestry programs to improve the health of urban forests, address key urban tree health issues, implement long-term plant health care practices and strategies, and offer technology transfer programs tailored to identified training and information needs.

The survey was mailed to a representative sampling of urban forestry professionals throughout the 20 northeast and Midwest States and the District of Columbia, including State Foresters, State Urban Forestry Coordinators, State Urban Forestry Volunteer Coordinators, State Urban Forestry Council Chairs, University Urban Forestry Extension Specialists, University Diagnostic Clinic Directors, State Plant Health Specialists within the Departments of Natural Resources, Conservation, or Agriculture, and private arborists.

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Survey Findings

Of 468 surveys mailed, 206 responses were completed and returned, resulting in a 44% response rate. Survey findings are grouped into four major sections: urban forest health, training and information needs, preferred educational outreach methods, and detection and evaluation needs.

Urban Forest Health

Survey respondents were asked several questions about their attitudes toward the general issue of urban forest health. They were asked to give their assessment of the current condition and overall health of urban forests within their city or state, cite specific problems or issues adversely impacting urban forest health, identify urban forest health management strategies they deemed critical to preserving the health and sustainability of urban forests, and state to what extent urban forest health management strategies were currently being implemented within their city or state. Their reactions were sought to gauge their degree of interest or perceived need to improve the health and sustainability of urban forests, their perception of important urban tree health issues and management strategies, and their perception of whether preserving the health and sustainability of urban forests was currently an integral component of Urban and Community Forestry programs within their city or State.

Assessment of Urban Forest Health

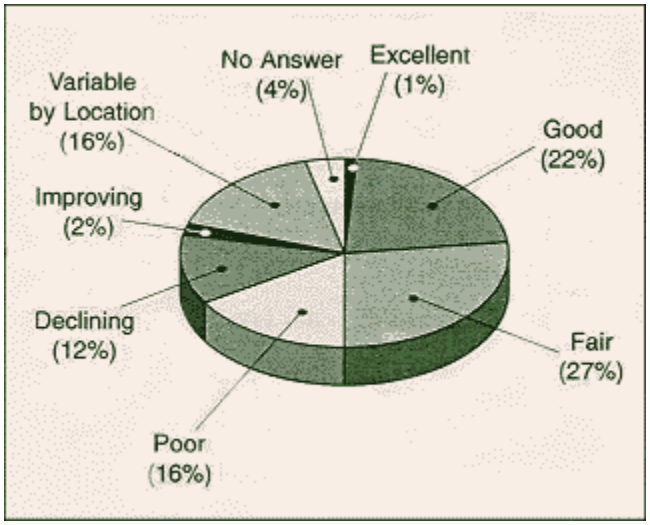

Figure 1. *Assessment of the general health and condition of urban forests*

When asked to give their assessment of the general health and condition of the urban forests in their city or State, less than 1 % of respondents felt the general health of urban forests was excellent (Figure 1).22 % ranked the general health as being good; 27 % ranked it as fair; and 16 % ranked it as poor. 12 % felt general health was declining while 2 % felt it was improving; however, in both cases, respondents did not cite the current health condition and a rating could not be determined. 16 % felt the general health was variable within their State, by location, and ranked it lower in smaller, rural communities that suffered from lack of program funds and urban

forest health expertise. 4 % of persons surveyed did not answer this question.

Specific factors cited to be adversely affecting the health of the forests were of interest and were recorded (Table 1). Nearly all of the factors cited related to specific tree health problems. Lack of tree care and maintenance was the single most common factor cited by respondents to be adversely affecting the health of urban forests. Post-planting neglect of young trees (lack of water and pruning), and the lack of pruning and maintenance of mature trees were the most frequently cited tree maintenance problems. Environmental stress associated with urban sites was the second most frequently cited factor adversely affecting urban forest health. Soil compaction, poor soil quality, pedestrian traffic, construction, and sidewalk reconstruction damage were the most frequently cited environmental stress problems. Insect and disease pests were the third ranked factor adversely affecting urban forest health with Dutch elm disease, oak wilt, hemlock woolly adelgid, ash decline and oak decline being the most frequent cited pest problems. Improper tree and site selection, improper planting techniques, lack of species diversity, and old age were also cited as factors adversely affecting the health of urban forests.

Table 1. *Most Frequently Mentioned Factors Adversely Affecting the Current Condition of Urban Forests*

Factors Adversely Affecting the Health of Urban Forests	Specific Topics
Lack of Tree Care and Maintenance	Post-planting neglect of young trees (lack of watering and pruning); lack of pruning and maintenance of mature trees.
Urban Environmental Stressors	Soil compaction; poor soil quality; pedestrian traffic; construction and sidewalk reconstruction damage.
Insect and Disease Pests	Dutch elm disease; oak wilt; hemlock woolly adelgid; ash decline; and oak decline.
Improper Species/Site Selection	No specific topics cited.
Lack of Species Diversity	No specific topics cited.
Improper Planting Techniques	Inadequate spacing for root development; planting too deeply; failure to remove burlap and wires.
Old Age of Urban Forests	Declining condition of old trees and the need to implement reforestation practices.

Long-Term Tree Care Critical To Urban Forest Health

When asked to identify long-term tree care and maintenance strategies they deemed to be critical to the health and preservation of urban forests, over 95 % of respondents selected seven strategies: proper tree pruning techniques, proper site and species selection, minimizing construction damage, insect management and control, tree health monitoring, disease management and control, and hazard tree evaluation and management (Table 2). Fertilizing and

watering needs (88 % of respondents) and natural disaster planning and mitigation (44 % of respondents) were also selected to be critical urban forest health management strategies.

Table 2. Long-Term Tree Care Critical to Urban Forest Health

Long-Term Tree Care and Maintenance Strategies	% of Total
Proper Tree Pruning Techniques	99%
Proper Site and Species Selection	98%
Minimizing Construction Damage	98%
Insect Management and Control	96%
Tree Health Monitoring	96%
Disease Management and Control	95%
Hazard Tree Evaluation and Management	95%
Proper Fertilizing and Watering Techniques	88%
Natural Disaster Planning and Mitigation	44%

Preservation and Sustainability of Urban Forests

When asked if preserving the health of urban forests should be an integral component of Urban and Community Forestry Programs, 99% of respondents agreed that it should be (Figure 2).

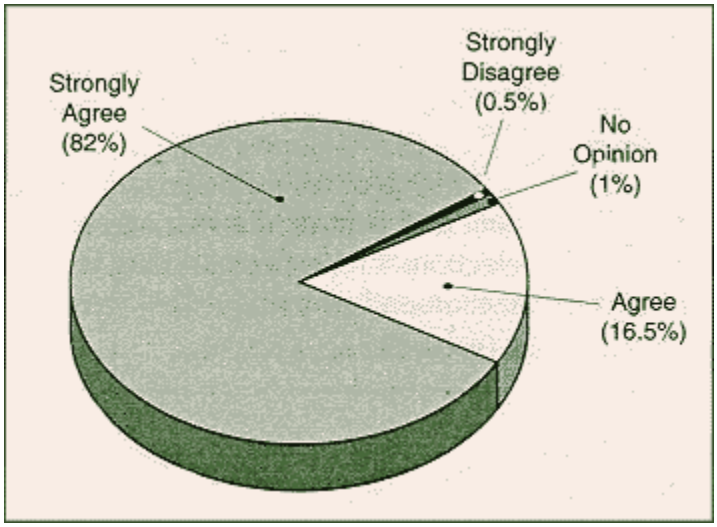

Figure 2. *Preserving the health of urban forests: should it be an integral component of Urban and Community Forestry programs?*

Less than half of those surveyed, however, felt that preserving the health of urban forests was an integral component of the existing Urban and Community Forestry programs in their city or State (Figure 3).

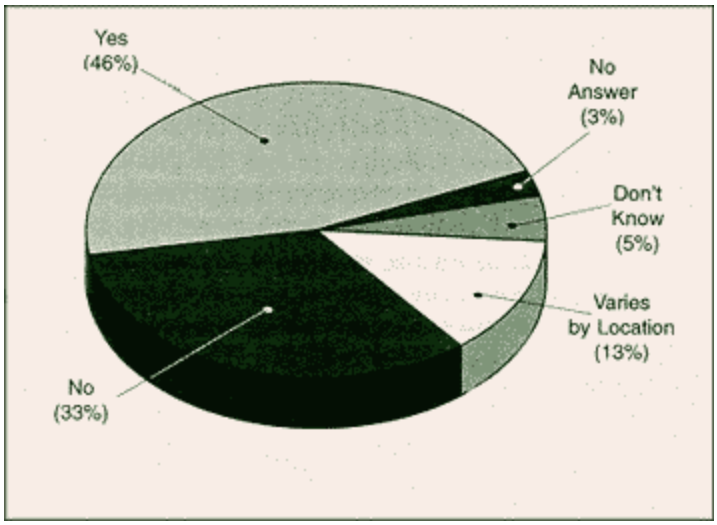

Figure 3. *Preserving the health of urban forests: is it an integral component of Urban and Community Forestry programs?*

Training and Information Needs

Survey respondents were asked to review a list of long-term tree care and maintenance subject areas and identify those in which they would like to receive training or printed information.

Respondents were then asked to identify specific topics, within the major subject areas, in which they would like to receive training and printed information. This information was sought for use in developing educational outreach programs that specifically target identified training and printed information needs of urban forestry professionals and their constituents within the Northeastern Area

Respondents expressed interest in receiving training within all long-term tree care and maintenance subject areas listed in the survey (Table 3). Approximately 30-40% of respondents requested training in the areas of hazard tree evaluation and management, disease management, tree health monitoring and natural disaster planning and mitigation.

Approximately 20-30% of respondents requested training in the areas of insect management and control, minimizing construction damage, and proper site and species selection. Proper tree pruning techniques (19% of respondents) and proper fertilization and watering techniques (17% of respondents) were identified as training needs.

Table 3. *Training Needs, by Subject Area*

Training Needs	% of Total Requesting Training
Hazard Tree Evaluation and Management	37%
Disease Management and Control	33%
Tree Health Monitoring	32%
Natural Disaster Planning & Mitigation	30%

Training Needs	% of Total Requesting Training
Insect Management and Control	28%
Minimizing Construction Damage	27%
Proper Site/Species Selection	23%
Proper Tree Pruning Techniques	19%
Proper Fertilization and Watering Techniques	17%

Respondents expressed interest in receiving printed information within all long-term maintenance subject areas listed in the survey (Table 4). Approximately 70-75% of respondents requested printed information in the subject areas of insect management and control, tree health monitoring, minimizing construction damage, and disease management and control. Approximately 60-70% of respondents requested printed information on proper fertilization and watering techniques, hazard tree evaluation and management, and proper tree pruning techniques. Printed information on proper site and species selection (58% of respondents) and natural disaster planning and mitigation (57% of respondents) were also requested.

Table 4. *Printed Information Needs, by Subject Area*

Training Needs	% of Total Requesting Training
Insect Management and Control	73%
Tree Health Monitoring	73%
Minimizing Construction Damage	72%
Disease Management and Control	70%
Proper Fertilization and Watering Techniques	68%
Hazard Tree Evaluation and Management	60%
Proper Tree Pruning	60%
Proper Site and Species Selection	58%
Natural Disaster Planning and Mitigation	57%

When asked to identify specific topics they were in need of training and printed information, respondents selected the following topics within the major long-term maintenance subject areas (Table 5).

Table 5. *Specific Training and Printed Information Needs, by Major Subject Areas*

Major Subject Area	Specific Training and Printed Information Needs
Hazard Tree Evaluation and Management	Evaluation and management techniques; practical "How To" manual for municipal arborists; inventory systems; species-specific hazard tree evaluation data; liability issues; costs associated with hazard tree losses; the role of hazard trees in natural disasters.
Disease Management and Control	Updates on new and common diseases; common abiotic disorders; field diagnostic techniques; oak wilt, declines of oak, maple, and juniper; ash yellows; Verticillium wilt; girdling root syndrome; root decay; wood decay; biological and environmentally friendly control strategies.
Tree Health Monitoring	Assessment techniques for large and small communities; develop a "How To" informational brochure for non-professionals; guidelines on how to organize a Statewide program.
Natural Disaster Planning and Mitigation	Legal responsibilities; detailed example of systems that have worked; regional planning strategies; organizing natural disaster response teams; timeline for post disaster activities; coordination of municipalities and utilities; sources of technical and financial assistance.
Insect Management and Control	Updates on new and common insect pests; biological and environmentally friendly control strategies; insecticides: timing and efficacy; insect biology and ecology; gypsy moth; woolly adelgid; Japanese beetle; borers and mites.
Minimizing Construction Damage	Management guidelines to minimize tree damage during construction; proper installment of fencing; use of mulch to reduce soil compaction; how to maintain soil quality; impacts of grade changes; mitigating existing problems (soil compaction, grade changes, root damage); education of contractors and utility companies on the value of trees and proper tree management techniques during construction.
Proper Site and Species Selection	General guidelines; species specific information on tree car maintenance needs; new varieties of plants; modification and improvement of urban planting sites.
Proper Tree Pruning	Proper pruning techniques; pruning guidelines for young vs. mature trees; utility and street clearance issues.
Proper Fertilization and Watering Techniques	Guidelines for young vs. mature trees: how to and when; site-specific recommendations: sandy vs. clay soils; trees in decline; soil testing and fertilization.
Other	Street tree inventory systems with GPS/GIS; public education: inform city leaders and policy makers on the value of trees and urban forest health issues; urban forestry publication listing; fund-raising techniques.

Preferred Educational Outreach Methods

Survey respondents were asked to review a list of educational outreach methods and rank the degree of effectiveness for each method (Table 6). This information was sought for use in developing educational outreach programs that deliver information to clients using methods they prefer and feel are most effective.

Over 90% of respondents agreed that one- to two-page fact sheets, “How To” informational brochures, and workshops were effective educational outreach methods. Pest alerts, reference books, State conferences, videos, regional conferences, and popular magazine articles were selected by approximately 80-90% of respondents as effective methods. Slide sets and press releases were selected by 77% and 70% of respondents, respectively. Just over half of respondents agreed that posters, Internet, interactive videos, and CD-ROMs were effective methods. The Internet and interactive videos and CD-ROMs may gain popularity as people become more familiar with them and discover the full range of capabilities of the Internet or interactive computer software. Other methods suggested (8%) included radio and TV spots (3%), field demonstrations (1%), public presentations (1%), newsletters (1%), grants (1%), and distance learning techniques such as teleconferencing and video conferencing (1%).

Table 6. *Preferred Educational Outreach Methods*

Educational Outreach Methods	% of Total Strongly agree/agree
Fact Sheets	95%
“How To” Informational Brochures	93%
Workshops	92%
Pest Alerts	89%
Reference Books	88%
State Conferences	85%
Videos	82%
Regional Conferences	80%
Popular Magazine Articles	80%
Slide Sets	77%
Press Releases	70%
Posters	57%
Internet	56%
Interactive Videos, CD-ROMs	55%
Other Methods	8%

Respondents were asked to state their opinion as to whether it is more effective to produce two versions of informational pieces: one tailored for homeowners and another more technically oriented for professionals. Fifty seven % of respondents strongly agreed, 29% agreed, 7% disagreed, and 3% strongly disagreed that producing two versions was the most effective approach.

When asked to identify key partners in the development and distribution of urban forest health management information, respondents listed twenty entities (Table 7).

Table 7. *Key Partners in the Development and Distribution of Urban Forest Health Information*

Key Partners	% of Total
State Department of Natural Resources	55%
USDA Cooperative Extension Service	49%
State University Staff and Programs	19%
Community Groups	19%
USDA Forest Service	17%
State and Regional Tree Advisory Councils	14%
International Society of Arboriculture	14%
State Department of Agriculture	14%
Private Arborists and Consultants	8%
Other Professional Organizations	7%
Media	6%
Local Tree Boards	2%
Natural Resources Conservation Service	2%
Nurseries	2%
State Department of Transportation	2%
State Legislators and Politicians	2%
City Planners	2%
Utility Companies	2%
Public Schools and Libraries	2%
Industry Leaders	1%

Detection and Evaluation Needs

When asked if they needed assistance in the detection or evaluation of urban forest health problems or pests, five needs were cited:

- ***Financial assistance for conducting pest surveys.***
- ***Assistance in educating town and city officials in recognizing the value of improving urban tree health.***
- ***Field training of staff at the State and community level in survey techniques and key pest identification.***
- ***Training of community leaders in program development, implementation, and evaluation.***

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Discussion

The discussion of survey findings is grouped into four major sections: urban forest health, training and information needs, preferred educational outreach methods, and detection and evaluation needs.

Urban Forest Health

Survey findings indicate an overwhelming need to improve the general health of urban forests in the 20 northeast and Midwest States and the District of Columbia, as evidenced by the fact that fewer than 25% of survey respondents ranked the general health of their State and local urban forests as being good to excellent. This need supports the position of the State Foresters who recently identified the need to "improve urban forests" as one of the top forestry issues and resource priorities in the region. These findings document a need to expand the focus of Urban and Community Forestry programs to include greater emphasis on urban forest health management issues.

Survey findings reveal a disparity between the high level of interest, on the part of urban forestry professionals, in preserving the health of urban forests (99% in favor of) and the shortage of Urban and Community Forestry programs that specifically address and actively implement urban forest health management and preservation strategies (less than half). These findings highlight the need to develop comprehensive urban forestry programs that (1) address issues critical to the preservation and sustainability of urban forests, and (2) implement long- term plant health care practices and strategies.

The survey identifies specific problems or issues respondents felt were adversely impacting the health of urban forests and key long-term tree care management strategies deemed critical to the preservation and sustainability of urban forests. The most frequently mentioned factors cited to be adversely impacting the current condition of urban forests were specific tree health problems. These responses suggest that respondents view the urban forest in the limited context of trees and do not address the broader issue of managing all natural resources within the forest ecosystem. Future surveys targeted at assessing ecosystem management issues will need to be very clear in defining the scope of the urban forest.

Top ranking long-term tree care management strategies closely parallel factors identified to be adversely impacting urban forest health and include proper tree pruning, proper site and species selection, minimizing construction damage, insect management and control, tree health monitoring, disease management and control, and hazard tree evaluation and management.

Top ranking tree health problems and long-term tree care management strategies should receive major program emphasis and be addressed as integral components of Urban and Community Forestry programs.

Training and Information Needs

Survey results provide valuable needs assessment information that can be used to develop and implement educational outreach programs in urban forest health management, specifically

targeted to identified training and informational needs. Survey findings clearly indicate interest and demand by urban forestry professionals for training and printed information in the area of urban tree health management.

Respondents expressed interest in receiving training and printed information within all long-term tree care and maintenance subject areas listed in the survey. The top five ranking training needs include hazard tree evaluation and management, disease management, tree health monitoring, natural disaster planning and mitigation, and insect management. The top five ranking printed information needs include insect management, tree health monitoring, minimizing construction damage, disease management, and proper fertilizing and watering techniques. Respondents also identified specific topics, within the major long-term maintenance subject areas, in which they were in need of training or printed information. When setting priorities for education outreach efforts, top ranking training and printed information needs should be targeted and addressed first.

Publications currently exist on many of these topics and should be compiled and reviewed for technical accuracy and visual quality. Effective distribution of existing publications that are technically accurate and of high visual quality should be a program priority.

The survey identifies key partners who assist urban forestry professionals in the development and distribution of urban forest health information. This information can be used to identify and target audiences for the development and distribution of urban forest health training and publication materials, and serve as a framework to link partners and establish collaborative educational outreach projects.

Preferred Educational Outreach Methods

Identification of preferred educational outreach methods will help to facilitate the effective transfer of technology and information to urban forestry clients. The survey identifies some strong preferences among urban forestry professionals in their rankings of effective educational outreach methods.

Over 90% of respondents agreed that one- to two- page fact sheets, “How To” informational brochures, and workshops were effective educational outreach methods. Pest alerts, reference books, State conferences, videos, regional conferences, and popular magazine articles were selected by 80-89% of respondents as effective methods. Slide sets and press releases were selected by 77% and 70% of respondents, respectively. Just over half of respondents agreed that posters, Internet and interactive videos and CD-ROMs were effective methods. Internet and interactive videos and CD-ROMs may gain popularity as people become more familiar with them and discover their full range of capabilities. Over 85% of respondents agreed that it is more effective to produce two versions of informational pieces: one tailored for homeowners and another more technically oriented for professionals.

Top ranked educational outreach methods should receive high program priority in the development of training and printed materials. Implementation of preferred educational outreach methods in program delivery will help to ensure that technology and information are transferred to our urban forestry partners in a meaningful and accepted manner.

Detection and Evaluation Needs

Survey respondents did not cite many specific needs for assistance in the survey, detection, or evaluation of urban forest health problems or pests. The five requested needs ranged in content from training and education to financial assistance. Since requests for assistance were few in number, there does not appear to be a need to identify the top ranking requests. Addressing and responding to all requested needs should be feasible.

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Recommendations

With 69 million acres of urban forests across the country, what better way of "caring for the land and serving people" than for the Forest Service to embrace an Urban and Community Forestry program that provides a comprehensive and targeted approach to urban forest health management? This survey provides valuable needs assessment information that can be used to develop programs that are specifically tailored to meet the identified needs of urban forestry professionals and their constituents in the Northeast, Midwest, and District of Columbia. The programs would respond to the need to improve the health of urban forests, address key urban tree health issues, implement critical urban tree health management practices and strategies, and deliver educational outreach programs using preferred technology transfer methods.

The following recommendations would enhance the implementation of a comprehensive and targeted approach to urban forest health management and should be considered for adoption into the Northeastern Area's Urban Forestry Five-Year Plan, the National Urban and Community Forestry Plan, and the National Urban and Community Forestry Program Standards.

- Develop comprehensive Urban and Community Forestry Programs that address issues critical to preserving the health and sustainability of urban trees and forests in the Northeast, Midwest, and District of Columbia, and implement long-term plant health care practices and strategies:
  - Encourage States to include an urban forest health management component in their Five-Year Urban and Community Forestry Strategic Plans.
  - Encourage States to implement program priorities outlined in the National Urban and Community Forestry Program Standards when making decisions to allocate Federally and State funded tree planting grants:

    All tree planting projects must include a 3-year maintenance plan (plans require the approval of the State Forester or a designee) that documents how the trees will be planted and maintained.

    Projects involving tree protection and maintenance must meet American National Standards Institute (ANSI) standards. (State standards may be substituted with USDA Forest Service concurrence.)

    Trees planted must, as a minimum, meet the American Standards for Nursery Stock. (State standards may be substituted with USDA Forest Service concurrence.)
- Develop and implement educational outreach programs in urban forest health management tailored to identified training and printed information needs (*Tables 3, 4, and 5*), and preferred educational outreach methods (*Table 6*).

Appendix: Summary of Survey Responses

Form Approved-OMB No. 0505-0020
Expires 3/31/97

Urban Forest Health
Needs Assessment Survey

Name:_____

Address: _____

_____

Job Title: _____

Phone: _____

Fax: _____

Mail: _____

1. ***What is your assessment of the general health and condition of the urban forests in your state or city?***

Excellent	1%	Declining	12%
Good	22%	Improving	2%
Fair	27%	Variable, by location	16%
Poor	16%	No Answer	4%

2. ***Do you need assistance in the survey, detection or evaluation of urban forest health problems or pests within your state or city? If so, please explain.***

   - Financial assistance for conducting pest surveys.
   - Assistance in educating town and city officials in recognizing the value of improving urban forest health.
   - Field training of staff at the state and community level in survey techniques and key pest identification.
   - Training of community leaders in program development, implementation and evaluation.
   - Training in the use of GPS/GIS to survey/evaluate pests.

3. ***Preserving the health of urban forests should be an integral component of Urban and***

Community Forestry program development. Check the appropriate response.

Strongly agree	82%
Agree	16.5%
No opinion	1%
Disagree	0%
Strongly disagree	0.5%

4. ***Is preserving the health of urban forests currently an integral component of the Urban and Community Forestry programs in your city or state?***

Yes	46%
No	33%
Varies, by location	13%
Don't know	5%
No answer	3%

5. ***Who are your key partners in developing and distributing urban forest health information?***

Table 7. *Key Partners in the Development and Distribution of Urban Forest Health Information*

Key Partners	% of Total
State Department of Natural Resources	55%
USDA Cooperative Extension Service	49%
State University Staff and Programs	19%
Community Groups	19%
USDA Forest Service	17%
State and Regional Tree Advisory Councils	14%
International Society of Arboriculture	14%
State Department of Agriculture	14%
Private Arborists and Consultants	8%
Other Professional Organizations	7%
Media	6%
Local Tree Boards	2%
Natural Resources Conservation Service	2%
Nurseries	2%

Key Partners	% of Total
State Department of Transportation	2%
State Legislators and Politicians	2%
City Planners	2%
Utility Companies	2%
Public Schools and Libraries	2%
Industry Leaders	1%

6. I interact with the following Urban Forestry clients often (O), sometimes (S), rarely (R) or never (N). Please place a letter designator before each client category.

Percent of Total

Clients	Often	Sometimes	Rarely	Never	No Answer
__ Homeowners	72	20	6	1	1
__ City foresters	46	36	10	5	3
__ Parks personnel	36	39	18	5	2
__City planners	19	28	29	22	2
__Utilities	26	30	32	10	2
__Landscape architects	18	35	35	10	2
__Developers	10	29	34	25	2
__Builders/contractors	10	31	32	25	2
__Volunteers	34	38	16	10	2
__Emergency mgt. contacts	4	17	31	42	6
__Other clients	26	9	2	2	61

7. The following long term tree care/maintenance subjects are critical elements to preserving the health of our urban forests. Check the appropriate response.

Tree Health Monitoring
64% strongly agree **32%** agree ..... **3%** no opinion **1%** disagree _ **0%** strongly disagree

Disease Management and Control/Plant Health Care
52% strongly agree **43%** agree ..... **3%** no opinion **2%** disagree _ **0%** strongly disagree

Insect Management and Control/Plant Health Care
47% strongly agree **50%** agree ..... **1%** no opinion **2%** disagree _ **0%** strongly disagree

Hazard Tree Evaluation and Management
65% strongly agree **30%** agree ..... **2.5%** no opinion **2%** disagree _ **0.5%** strongly disagree

Proper Tree Pruning Techniques
76% strongly agree **22.5%** agree ..... **1%** no opinion **0.5%** disagree **0%** strongly disagree

Fertilization and Watering Needs
43% strongly agree **46%** agree ..... **4.5%** no opinion **6%** disagree _ **0.5%** strongly disagree

Minimizing Construction Damage
75% strongly agree **22.5%** agree ..... **2%** no opinion **0.5%** disagree **0%** strongly disagree

Site/Species Selection
81.5% strongly agree **16%** agree ..... **2%** no opinion **0.5%** disagree **0%** strongly disagree

Natural Disaster Planning and Mitigation
21% strongly agree **44%** agree ..... **24%** no opinion **9%** disagree **2%** strongly disagree

Other Long Term Tree Care/Maintenance Subjects please specify.

Proper training, awareness, information, etc. (1 response)

Identification and collaboration with local groups concerned with Community Forestry issues (1 response)

Funding: without it, you cannot address any of the above listed subjects (2 responses)

8. ***a. Please indicate if it would be useful to you to receive printed information and/or training in the following long term tree care/maintenance subjects areas. Check the appropriate response.***

Tree Health Monitoring
73% printed information **32%** training **15%** no information needed

Disease Management and Control/Plant Health Care
70% printed information **33%** training **16%** no information needed

Insect Management and Control/Plant Health Care
73% printed information **28%** training **18%** no information needed

Hazard Tree Evaluation/Management
60% printed information **37%** training **21%** no information needed

Proper Tree Pruning Techniques
60% printed information **19%** training **31%** no information needed

Proper Fertilization and Watering Techniques
68% printed information **17%** training **25%** no information needed

Minimizing Construction Injury
72% printed information **27%** training **19%** no information needed

Proper Site/Species Selection
58% printed information **23%** training **23%** no information needed

Natural Disaster Planning and Mitigation
57% printed information **30%** training **24%** no information needed

8. ***b.If you indicated in question 8a that you would like to receive printed information and/or training within a particular subject area, please list specific topics. See Table 5.***

9. ***The following educational outreach methods are effective information transfer tools. Check the appropriate response.***

"How To" Informational Brochures (multiple pages illustrated)
56% strongly agree **37%** agree **5%** no opinion **2%** disagree **0%** strongly disagree

"Fact Sheets (1-2 pages, illustrated)
60% strongly agree **35%** agree **3%** no opinion **2%** disagree **0%** strongly disagree

Pest Alerts
47% strongly agree **42%** agree **10%** no opinion **1%** disagree **0%** strongly disagree

Press Releases
26% strongly agree **43%** agree **20%** no opinion **10%** disagree **1%** strongly disagree

Posters
16% strongly agree **41%** agree **23%** no opinion **10%** disagree **2%** strongly disagree

Popular Magazine Articles
25% strongly agree **55%** agree **17%** no opinion **3%** disagree **0.5%** strongly disagree

Slide Sets
25% strongly agree **52%** agree **15%** no opinion **7%** disagree **1%** strongly disagree

Reference Handbooks
39% strongly agree **49%** agree **7%** no opinion **4.5%** disagree **0.5%** strongly disagree

Videos
38% strongly agree **44%** agree **13%** no opinion **4%** disagree **1%** strongly disagree

Interactive Videos
23% strongly agree **32%** agree **38%** no opinion **5%** disagree **2%** strongly disagree

Internet (computer on-line networks)
24% strongly agree **32%** agree **36%** no opinion **4%** disagree **4%** strongly disagree

Workshops
62% strongly agree **30%** agree **6%** no opinion **2%** disagree **0%** strongly disagree

State Conferences
35% strongly agree **50%** agree **12%** no opinion **2%** disagree **1%** strongly disagree

Regional Conferences
34% strongly agree **46%** agree **14%** no opinion **5%** disagree **1%** strongly disagree

Other methods, please specify.

Radio and TV	13%
Field demonstrations	1%
Public presentations	1%
Newsletters	1%
Grants	1%
Distance learning	1%

10. For informational pieces, it is often most effective to produce two versions, one tailored for homeowners and another more technically oriented for professionals. Check the appropriate response.

57% strongly agree 29% agree 4% no opinion 7% disagree 3% strongly disagree

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